ARIZONA GAME AND FISH DEPARTMENT
HERITAGE DATA MANAGEMENT SYSTEM

Animal Abstract **Element Code:** AFCJC02100
Data Sensitivity: No

CLASSIFICATION, NOMENCLATURE, DESCRIPTION, RANGE

NAME: *Catostomus insignis*
COMMON NAME: Sonora Sucker, Gila Sucker
SYNONYMS: *Minomus insignis, Catostomus insigne, Catostomus gila*
FAMILY: Catostomidae

AUTHOR, PLACE OF PUBLICATION: Baird and Girard, 1854. Descriptions of new species of fishes collected in Texas, New Mexico, and Sonora, by Mr. John H. Clark on the U.S. and Mexican Boundary Survey, and in Texas by Capt. Stewart Van Vliet, U.S.A., Proc. Soc. Nat. Sci. Philadelphia. 7:28.

TYPE LOCALITY: Baird and Girard (1854): "Rio San Pedro of the Rio Gila" (San Pedro River, probably near mouth of Babacomari River, Cochise County, Arizona).

TYPE SPECIMEN:

TAXONOMIC UNIQUENESS: There are 16 other species of the genus in North America.

DESCRIPTION: A medium-sized catostomid fish, although adults can attain a size of 80.0 cm (31.5 in). Minckley (1973) states that adults can weigh greater than 2.0 kg (4.4 lbs). "Body fusiform, chubby. Head large. Lower lips enlarged, but only moderately, fleshy lobes not produced. Dorsal fin generally square on distal margin, usually with 11 (rarely 12) fin-rays. Scales relatively large, typically fewer than 60 in lateral line, crowded anteriorly, but not markedly so.

Body sharply bi-colored, brownish dorsally, yellow beneath. Dorso-lateral scales sharply outlined with melanophores over-all, each scale with a discrete broadening of the outline, to form a variably distinct spot; spots aligned to provide a visual effect of longitudinal, punctuate lines on upper sides of darkly-colored individuals. Interradials of fins variably darkened; lower fins typically yellow to white" (Minckley 1973).

"Tiny young of this species, and of most other suckers, have dorsal mouths that migrate to the ventral position as the fish develops through their larval stages" (Stewart 1926 in Minckley 1973).

AIDS TO IDENTIFICATION: Very similar in appearance to the Yaqui Sucker, *C. bernardini*. Hybrids have been reported by Clarkson and Minckley (1988) between *C. insignis*

and *C. (Pantosteus) clarki*. Melanophoric spots formed on upper body scales form apparent dash lines. Sometimes this sucker is sharply bicolored.

ILLUSTRATIONS:
B&W photo (Minckley 1973:160)
Line drawing (Page and Burr 1991:170)
Color drawing (Page and Burr 1991:171)
Color photos (Rinne and Minckley 1991:20)
Line drawings (Sublette et al. 1990:200)
B&W photos (Sublette et al. 1990:200)

TOTAL RANGE: Gila and Bill Williams systems (Colorado River drainage) New Mexico and Arizona, also in northern Sonora, Mexico. Sublette, et al. (1990) describe the Sonora Sucker as "native to the Gila and San Francisco drainages (except in extreme headwaters)" in New Mexico.

RANGE WITHIN ARIZONA: "...widespread in the Gila and Bill Williams river basins in Arizona" (Sublette et al. 1990). Per 1995 AGFD Native Fish Diversity Review, this fish is thought to be rare to absent in the Salt River Canyon, mainly due to predation by flathead catfish (*Pylodictis olivaris*).

SPECIES BIOLOGY AND POPULATION TRENDS

BIOLOGY: "*C. insignis* seems intolerant of lake conditions" (Minckley 1973), although a few specimens have been collected at Roosevelt Lake, Arizona, during netting and electrofishing surveys of the late 1980s by AGFD. Sublette et al. 1990 describe the Sonora Suckers of Arizona and New Mexico's San Francisco and Gila Rivers as "very sedentary" despite seasonal changes and major flood events.

REPRODUCTION: "Spawning begins in late winter and continues through midsummer. The female is usually attended by two males. Eggs are deposited in riffles, fall into the interstices between gravels, and incubate" (Reughard 1920 in Sublette et al. 1990). "They tend to move to smaller streams or onto riffles in larger streams, but a few populations are known to spawn in lakes" (Minckley 1973). Spawning does not appear to be correlated with any specific pattern of stream flow or temperature.

FOOD HABITS: "The young feed along the margins of streams, sometimes by the millions, upon tiny crustaceans, protozoans, and other animal and plant groups" (Minckley 1973). Adults are likewise omnivorous, "feeding in early morning and late evening on the aufwuchs assemblage (diatoms and algae) of shallow pools. A significant component of the diet is macroinvertebrates, particularly Ephemeroptera (Clarkson and Minckley 1988), with some coarse sand occasionally ingested" (Sublette et al. 1990).

HABITAT: The Sonora sucker is found in a variety of habitats from warm water rivers to trout streams. "It has an affinity for gravelly or rocky pools, or at least for relatively deep, quiet waters" (Minckley 1973). Adults tend to remain near cover in daylight, but move to runs and deeper riffles at night. Young live and utilize runs and quit eddies.

ELEVATION: 369 to 2663 m (1,210 to 8,730 ft.) (AGFD, unpublished data accessed 2001).

PLANT COMMUNITY:

POPULATION TRENDS: "The status of the species is stable in the San Francisco and Gila River drainages, New Mexico" (Sublette et al. 1990). Thought to be lost from the entire Santa Cruz watershed (D. Foster 2005).

SPECIES PROTECTION AND CONSERVATION

ENDANGERED SPECIES ACT STATUS: SC (USDI, FWS 1996)
[C2 USDI, FWS 1994]

STATE STATUS: 1B (AGFD SWAP 21012)

OTHER STATUS: Forest Service Sensitive, USDA, FS Region 3, 2013
Bureau of Land Management Sensitive (USDI, BLM AZ 2000, 2005, 2008, 2010)
P, Listed Endangered (Secretaría de Medio Ambiente 2000, 2010)
[Listed Endangered, Secretaría de Desarrollo Social 1994]

MANAGEMENT FACTORS: Alteration of historic flow regimes and construction of reservoirs have diminished available habitat for Sonoran Sucker. General watershed erosion causing excessive sand deposition in streams has eliminated much pool habitat required by the species. .A winter snagging season for anglers currently (1994) exists for this sucker and the desert sucker below Stewart Mountain Dam on the Lower Salt River. This management action was taken as a measure to encourage harvest of the species, as many die during the extremely slow winter water flows.

PROTECTIVE MEASURES TAKEN: Two Arizona Game and Fish Department studies are underway which will document current population dynamics of the Sonora sucker in reaches of two central Arizona rivers: "Effects of Fish Snagging on the Lower Salt River" and "Roundtail Chub Study on the Lower Salt/Verde Rivers". Both of these Enhancement Fund studies will be conducted in FY 94-95.

SUGGESTED PROJECTS: Distribution and population trend studies within known range. Variability in reproductive success. Suggest that AZGFD actively search for species in Mexico via cooperators (D. Foster 2005).

LAND MANAGEMENT/OWNERSHIP: BIA - Fort Apache, Fort McDowell, Salt River Pima, and San Carlos Reservations; BLM - Kingman, Safford, and Tucson Field Offices; BOR - Phoenix Area; NPS - Montezuma Castle National Monument; USFS - Apache-Sitgreaves, Coconino, Coronado, Prescott, and Tonto National Forests; State Land Department; AGFD Black River Lands; Dead Horse Ranch and Red Rock State Parks; TNC - Canelo Hills Cienega, Patagonia-Sonoita Creek, Aravaipa Canyon and Muleshoe Ranch Preserves; Private.

SOURCES OF FURTHER INFORMATION

REFERENCES:

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ADDITIONAL INFORMATION:

Revised: 1994-07-01 (JJW)
1995-01-29 (KLY)
1997-03-04 (SMS)
2001-10-10 (SMS)
2002-12-04 (RHB)